

STATE OF IDAHO

Department of Fish and Game
Joseph C. Greenley, Director

Annual Project Closing Report
Clearwater River Development
of Spring Chinook and Steelhead Stocks

Project No. 28272402

Contract No. 03-5-208-00014

Period Covered: July 1, 1973 to June 30, 1974

Columbia River Fisheries Development Program

February, 1975

CLEARWATER RIVER DEVELOPMENT
OF SPRING CHINOOK AND STEELHEAD STOCKS

Abstract

Spring chinook eyed egg plants in the South Fork Clearwater River and Selway River drainages during 1973 totaled 3,511,544. These eyed eggs were taken from chinook captured and spawned at Rapid River Hatchery. Approximately 2,029,316 eyed eggs were placed in Indian Creek hatching channel on the upper Selway River drainage; 930,000 in the Crooked River hatching channel; and 551,628 eyed eggs in the Red River hatching channel, both in the South Fork Clearwater River drainage. Over 962,335 emergent fry were counted out of the Indian Creek hatching channel. Another 34,920 emergent fry were enumerated from Crooked River hatching channel and released in Newsome Creek.

An estimated return of 5,000 adult spring chinook entered the Clearwater River system in the fall of 1973. An additional 1,942 excess adults from Rapid River Hatchery were released in the South Fork drainage.

Approximately 104,000 large, excess chinook fry from Rapid River Hatchery were released in Newsome Creek and Ten Mile Creek.

About 800,000 recently buttoned steelhead fry were released into the Lochsa and South Fork Clearwater Rivers after being reared at Sweetwater Eyeing Station.

Report of Progress

Obtaining and Planting Eyed Eggs

All eyed chinook eggs planted in incubation channels in the Clearwater River drainage were taken from adult chinook captured and spawned at Rapid River Hatchery. Approximately 3,717,840 green eggs were transferred by

Department personnel to Sweetwater Eyeing Station. A total of 3,009,344 eyed eggs were planted from Sweetwater Eyeing Station for an eye-up of 80.7 percent. Another 502,200 eyed eggs were planted directly from Rapid River Hatchery. About 2,029,316 eyed eggs were planted at Indian Creek channel, 930,600 eyed eggs at Crooked River channel and 551,628 at Red River channel (Table 1).

Table 1. Spring chinook eyed egg plants - Clearwater River drainage, 1973.

Channel	Date	Eyed eggs	Hatchery Eyeing
Indian Creek	Oct. 1	888,384	Sweetwater
Indian Creek	Oct. 4	727,104	Sweetwater
Indian Creek	Oct. 8	<u>413,828</u>	Sweetwater
	Total	2,029,316	
Crooked River	Oct. 3	428,400	Sweetwater
Crooked River	Oct. 10	<u>502,200</u>	Rapid River
	Total	930,600	
Red River	Sept. 28	195,216	Sweetwater
Red River	Oct. 8	<u>356,412</u>	Sweetwater
	Total	551,628	
	Grand Total	3,511,544	
Sweetwater Eyeing Station = 80.7 Eye Up			

Success of Egg Hatching and Fry Emergence

Poultry netting was placed over the channel at Indian Creek to reduce raccoon depredation. Raccoon workings about the edge of the netting indicated several animals in the vicinity, but they had negligible impact on the eggs or alevins.

Icing conditions existed at the channel most of the time from November through February. Trips were made monthly to Indian Creek channel to

inspect flows and general condition. Alevins were first noticed in the channel about the last of November.

A heavy snow-pack on the Bitterroot Range did not produce an early run-off due to a cool spring. With the peak flows being later than usual, most of the alevins had migrated from the channel before flooding occurred. There was some siltation to the upper portion of the channel during high flows; however, since the fry had left, it had little impact. The fry trap was installed on May 1, and enumeration and local distribution was carried on by Forest Service personnel hired for the job until June 15. The trap became plugged on May 6, 8 and 27, resulting in fry escaping which were uncounted. Forest Service personnel estimated 225,000 fry escaped on these three days. At the end of the trapping period, 962,335 fry or over 48 percent of the eyed eggs planted, had been enumerated from the channel (Table 2).

Table 2. Indian Creek hatching channel chinook fry transplants, 1974

Release Date	Release Site	Number of Fry
May 9	Paradise Guard Station-White Cap Creek	50,000
May 9	Magruder Ranger Station-Selway River	50,000
May 10	Pete Creek-Deep Creek	50,000
May 13	Beaver Point-Selway River	50,000
May 13	Gabe Creek-Deep Creek	50,000
May 23	Storm Creek-Wilkerson Creek	100,000
May 24	Cooper's Flat-White Cap Creek	40,000
May 30	3 miles above Coopers Flat-White Cap Creek	100,000
May 30	4 miles above Elbows Bend-Moose Creek	90,000
June 11	Scimitar Creek-Deep Creek	43,050
May & June	Selway River at hatching channel	<u>339,285</u>
	Total	962,335

A channel tender was employed to maintain flows through Crooked River hatching channel throughout the winter. He did an adequate job; however, during the January thaw, he did not reduce flows through the channel quickly enough to eliminate serious silting of the upper end of one channel. Some fry mortality did occur, but was of minimal proportion. Since the suffocation mortality was low, traps were installed at the channel one night and about 34,920 chinook fry were trapped, transported to, and released in Newsome Creek (Table 3).

Table 3. Crooked River hatching channel - spring chinook fry plants, 1974

Release Date	Release Site	Number of Fry
June 12	Newsome Creek - First Bridge	11,640
June 12	Newsome Creek - Beaver Creek	11,640
June 12	Newsome Creek - Old Newsome Townsite	<u>11,640</u>
	Total	34,920

Red River hatching channel was checked periodically throughout the winter. Still small sections of one channel were frozen dry resulting in a loss of fry. The diversion channel and sand traps filled completely with sand during the spring run-off; however, intergravel inspection showed only moderate siltation in the channel. Numerous live fry were present but due to the low number of eggs planted and icing loss, no trapping was instigated.

Smolt and Fingerling Plants - Clearwater River drainage, 1974

No chinook smolt or fingerling releases were made in the spring of 1974 into the Clearwater River drainage, excluding Clear Creek Hatchery,

due to the lack of excess fry for this program. However, there were excess chinook fry at Rapid River Hatchery which were released in tributaries of the South Fork Clearwater River by truck and helicopter (Table 4). These fry were quite large, averaging about two and one half inches.

Table 4. Spring chinook fry plants - Rapid River Hatchery, 1974

Release Date	Release Site	Number of Fry
June 19	Ten Mile Creek - Upper Meadows	36,000
June 19	Newsome Creek - First Bridge	18,000
June 20	Ten Mile Creek - Sourdough Bridge	<u>50,000</u>
	Total	104,000

Adult Spring Chinook returns - Clearwater River drainage, 1973

An estimated 5,000 spring chinook returned to the Clearwater River system during the fall of 1973. With the removal of the Washington Water Power Dam at Lewiston, all numbers of returning anadromous fish are determined by correlating past dam counts and redd trend counts with present redd numbers. The 5,000 adults represent a 32.6 percent increase from the known 3,467 entering the Clearwater system in 1972. The aerial redd count increased to 347, a 49 percent increase from 1972. Redd trend counts are summarized in Table 5. Fish passage through the Lower Snake and Columbia Dams was excellent and adults were present in the upper tributaries six weeks earlier than past years.

Table 5. Chinook spawning ground surveys - Clearwater River drainage, 1973

Date	Stream	Section	Redds	Live	Dead
<u>GROUND COUNTS</u>					
Aug. 30	Crooked Fork	Haskell Creek Bridge - Brushy Fork	60	36	17
Sept. 12	Selway River	Magruder Crossing - Little Clearwater	153	10	10
<u>AERIAL COUNTS</u>					
Sept 6	Selway River	Thompson Flat to Magruder Ranger Station	58	31	
Sept. 6	Selway River	Magruder Ranger Station to Magruder Crossing	32	19	
Sept. 6	Selway River	Magruder Crossing to Little Clearwater	95	56	
Sept. 6	Selway River	Little Clearwater to White Cap Creek	38	19	
Sept. 6	Selway River	Whitecap Creek to Running Creek	24	12	
Sept. 6	Selway River	Running Creek to Bear Creek	14	10	
Sept. 6	White Cap Creek	White Cap Creek up three miles	7	3	
Sept. 6	Running Creek	Running Creek up three miles and ½ mile up Eagle Creek	21	15	
Sept. 6	Bear Creek	Bear Creek up three miles	26	7	
Sept. 6	Moose Creek	Selway River to Elbows Bend	32	18	

A few adults entered the South Fork Clearwater River during the fall, 1973; however, an additional 1,942 adults excess to the needs of Rapid River Hatchery were also released into the South Fork, which negated any evaluation of natural returning adults.

Previous spring chinook counts past Lewiston Dam are summarized in

Table 6.

Table 6. Spring chinook counts past Lewiston Dam from 1950-73 with present estimates.

Year	April	May	June	July	August	Total
1950	--	--	1	6	2	9
1951	--	--	15	12	8	35
1952	--	--	7	7	-	14
1953	--	5	23	35	3	66
1954	--	--	2	15	1	18
1955	--	--	4	6	3	13
1956	--	2	7	4	1	14
1957	--	11	42	98	-	151
1958	--	--	11	11	1	23
1959	--	--	5	3	2	10
1960	--	14	15	14	--	43
1961	2	24	82	28	--	136
1962	--	1	6	5	1	13
1963	--	--	5	--	--	5
1964	--	--	33	31	2	66
1965	--	112	124	82	--	318
1966	3	75	148	129	--	355
1967	4	39	131	252	2	428
1968	--	186	261	528	15	990
1969	1	697	1742	103	4	2529
1970	87	427	562	620	4	1700
1971	--	107	801	1277	2	2187
1972	1	172	2060	1199	35	3467
1973				Estimated total		5000

Steelhead program success - Clearwater River drainage

All steelhead released in the Clearwater system were progeny of adults captured at Dworshak Hatchery. Sweetwater Eyeing station received 1,134,000 green eggs excess to the needs of Dworshak Hatchery in April, 1974. Approximately


800,000 recently buttoned fry resulting from those eggs were released equally in various areas of the Lochsa and South Fork Clearwater Rivers (Table 7).

Table 7. Steelhead fry releases from Sweetwater Eyeing Station, 1974


Date	Location	Number
July 1	Newsome Creek - 1st bridge	20,000
July 1	Newsome Creek - 6 miles up	20,000
July 1	Newsome Creek - Sing Lee Bridge	20,000
July 1	Newsome Creek - Old Newsome	20,000
July 1	Newsome Creek-Beaver Creek cabin	20,000
July 1	Mill Creek	100,000
July 1	Crooked River	200,000
July 2	Post Office Creek - First Bridge	50,000
July 2	Squaw Creek - 1k miles up Doe Creek	50,000
July 2	Squaw Creek - 2 miles up Doe Creek	50,000
July 2	Squaw Creek - Doe Creek Bridge	50,000
July 2	Papoose Creek - 1 mile up	50,000
July 2	Papoose Creek - 2 miles up	50,000
July 2	White Sand Creek Bridge	<u>100,000</u>
	Total	800,000

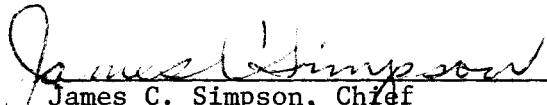
Dworshak Hatchery also had excess adults after obtaining all the eggs desired. These unspawned adults were given an upper caudle clip and released in various areas in the Clearwater system. On May 15, 1974, 200 of these fish were released in Red River and 200 in Newsome Creek. Due to the water quality, no spawning activity could be monitored.

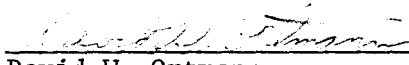
Submitted by:


Steven A. Hoss
Regional Fishery Biologist

Approved by:


Joseph C. Greenley, Director
Department of Fish and Game


James C. Simpson, Chief
Bureau of Fisheries


David W. Ortmann
Anadromous Fishery Supervisor

SAH/cf